

May 23, 2008

Project No. 04-01-101-001

Mr. Brian Rakvica, P.E.  
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Special Projects Branch  
Bureau of Corrective Actions  
Nevada Division of Environmental Protection  
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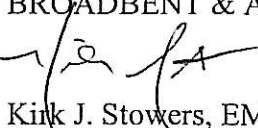
Re: Titanium Metals Corporation  
Henderson, Nevada Facility  
NDEP Facility ID # 000537  
*2007 Conceptual Site Model (CSM), Response to NDEP Comments dated February 10, 2008.*

Dear Mr. Rakvica:

Please find attached our response to Nevada Division of Environmental Protection's (NDEP's) comments dated February 10, 2008 regarding the 2007 Conceptual Site Model (CSM) for the Titanium Metals Corporation (TIMET) facility.

If you have any questions regarding this submittal, please do not hesitate to contact me at (702) 563-0600.

Sincerely,  
BROADBENT & ASSOCIATES, INC.

  
Kirk J. Stowers, EM-1549 (exp. 10/11/08)  
Associate Geologist

*JURAT: I, Kirk J. Stowers, hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances.*

cc: Craig Wilkinson – TIMET, 1 hard copy and 1 electronic copy  
Victoria Tyson – Tyson Contracting, Inc., 1 hard copy and 1 electronic copy  
Jim Najima – NDEP, Carson City, 1 hard copy and 1 electronic copy  
Paul Hackenberry – Hackenberry Associates, Inc., 1 hard copy and 1 electronic copy  
David Gratson – Neptune and Company, Inc., 1 hard copy and 1 electronic copy  
Brenda Pohlmann – City of Henderson, directed to ftp website  
Ranajit Sahu – BRC, directed to ftp website  
Susan Crowley – TRONOX, directed to ftp website  
Curt Richards – Olin Corporation, directed to ftp website  
Joe Kelly – Montrose Chemical Corporation of California, directed to ftp website  
George Crouse – Syngenta Crop Protection, directed to ftp website  
Candace Friday – Tetra Tech EM Inc., directed to ftp website  
Kathy Allford – T2 Environmental, directed to ftp website  
Jay Snyder – Golder and Associates, directed to ftp website

TABLE 1

Response to NDEP Comments  
May 23, 2008

May 23, 2008 (TIMET RTC)	Feb 10, 2008 (NDEP Comments)	December 7, 2007 (TIMET RTC)	September 24, 2007 (NDEP Comments)	August 6, 2007 (TIMET RTC)	June 6, 2007 (NDEP Comments)
No response is required.	1. General comment, the comment numbers identified below are the comment numbers from TIMET's December 7, 2007 letter.	NA	NA	NA	NA
This table includes TIMET's response to comments and the full annotation and development of each of the comments back to NDEP's June 6, 2007 comments.	2. General comment, in the response to this letter, please include the full annotation and development of each of the comments, tracing back to the NDEP's original letter on the CSM.	NA	NA	NA	NA
Errata Figure 1 was erroneously referred to as Figure-4a.	3. Response to comment (RTC) 1.a.iv., (RTC #36, 36b, 36c) Figure 3-4a was not provided with the revised submittal. Please includes this in the response to this letter.	RTC 1.a.iv. (Former RTC #36, 36b, 36c): The additional source areas included in Table 3-2 have been added to a new Figure 3-4a. The new Figure 3-4a is included as an attachment to this response to comments.	Comment 1.a.iv. (Former RTC 36) Figures 3-4 through 3-7 with any additional source areas discussed. For example, U.S. Vanadium; the Unit Buildings, Buildings associated with the Henderson Technical Laboratory (Buildings K-53, K-55, etc.); etc.	<u>TIMET Response #36b:</u> U.S. Vanadium will be added to Table 3-2 as a potential source area, and TIMET will continue efforts to locate documentation to verify the property use by U.S. Vanadium...  <u>TIMET Response #36c:</u> Table 3-2 will be modified to include Buildings K-53 and K-55 as potential source areas. The conveyance of wastes from Building K-53 is included as PSA 10 in the CSM. Waste streams from these facilities are included in OPW waste stream.. The areas where it is known that wastes were potentially discharged are addressed as PSAs (OPW disposition areas and former NaK discharge area). Note 1 in Table 3-2 will be modified to ensure that subsurface piping outside of identified PSAs is not excluded as a PSA.	<u>NDEP #36.</u> Table 3-2, the NDEP has the following comments: <u>NDEP #36b.</u> It appears that the former U.S. Vanadium facility is not addressed in this Table or in the CSM. Please explain. <u>NDEP #36c.</u> It appears that the TIMET research and development facilities are not listed as potential source areas. The only area this is covered is under PSA 23 for Building K-53. Please explain where the chemical laboratory is addressed.
Discussion of the continuity of the sand lenses in the Upper MCF was provided in the technical memorandum regarding data collected during implementation of the Vertical Delineation SAP.	4. RTC 1.a.vi.2 (response to previous RTC 19a), NDEP disagrees with TIMET's response to this question. The continuity of the sand lenses within the upper portion of the MCF is a data gap until proven otherwise.	RTC 1.a.vi.2 (Former RTC 19a): RTC 19 involves the veracity of the statement "most of the sand lenses in the upper portion of the MCF appear to be laterally discontinuous" as conceptualized within the CSM. NDEP is correct in that the density of data may not be sufficient to substantiate this statement particularly at TIMET (where investigation into the upper MCF has not occurred). Inclusion of this topic as a site-specific data gap is premature at this time. Implementation of the vertical delineation program will aid in understanding the extent of these sand lenses at TIMET. No revision Table 6-1 has been made with regards to this comment.	Comment 1.a.vi.2 (Former RTC 19a) Table 6-1, please insure that this Table addresses all identified data gaps and the applicable responses to comments (RTC). Examples follow (this is not a comprehensive list)...	<u>TIMET Response #19a:</u> The idea that these sand lenses are discontinuous has been put forth by previous investigators. The density of data may not be sufficient to substantiate this statement. TIMET's vertical delineation program is scoped to better understand the nature and extent of these sand lenses.	<u>NDEP #19a.</u> TIMET states "most of the sand lenses in the upper portion of the Muddy Creek Formation appeared to be laterally discontinuous." The basis and veracity of this statement are unclear. The NDEP is not aware of any data that have been collected to date to substantiate this statement.

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May 23, 2008

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TIMET reiterates its commitment to address source areas in manageable pieces. TIMET acknowledges data gap analysis is an important function and will be conducted as part of the ECI process for source areas.	5. (RTC 2) A formal data gap analysis should be conducted that uses all known information regarding each source and includes some level of data usability evaluation.	RTC 2. (RTC 2) Response to Comment: As discussed during the October 19, 2007 program management meeting, TIMET continues to work with NDEP to identify data gaps and develop a path forward. TIMET and NDEP meet weekly to track the status of these future investigations within this agreed upon framework.	Comment 2. (RTC 2) TIMET's response does not address the NDEP's comment that the CSM does not identify how all data gaps will be addressed and the path forward to the project. NDEP expects that TIMET will provide additional details to the NDEP as a response to this letter. If TIMET needs additional time to consider this matter a date by which this item will be addressed must be identified.	<p><u>TIMET Response #2:</u> TIMET has proposed the following deliverables and revised the project schedule in the July 15, 2007 quarterly report:</p> <p>Revised Data Validation Summary Report – July 6, 2007  Meeting with NDEP – July 11, 2007  Response to NDEP Comments on CSM – August 6, 2007  Vertical Delineation Sampling and Analysis Plan – July 31, 2007  Update to Plant Site Groundwater Monitoring Sampling Plan – July 26, 2007  Additional downgradient sampling – 3<sup>rd</sup> quarter 2007  Revise elements of the CSM (relevant tables and figures) – To be determined  Field Activities for Vertical Delineation – 4<sup>th</sup> quarter 2007  Data Assessment and Reporting – 1<sup>st</sup> and 2<sup>nd</sup> quarters 2008</p> <p>TIMET acknowledges the activities as outlined to not address all data gaps identified in the CSM. Additional investigations scoped either by data gap(s) or source area(s) are necessary. It is anticipated that data obtained from the vertical delineation program will aid in scoping subsequent investigation at the ponds, landfill, and northern storage areas. Recent submittal of the groundwater monitoring plan contains site characterization elements which also address several noted data gaps. It should be noted, that many data gaps are interrelated and will be answered from multiple sources.</p> <p>That being said, TIMET has made significant progress advancing the collective body of knowledge in regards to site characterization at the facility. TIMET is committed to effectively addressing each source area in concert with the NDEP in manageable pieces that optimize resources.</p>	<u>NDEP #2.</u> General comment, it would be helpful if there was a section of the report that described the path forward for the project. The CSM identifies a number of data gaps, however, the means to address these data gaps is not clear. In addition, the schedule for addressing these data gaps is not clear. In the response to comments letter, please explain how these data gaps will be addressed, as well as the proposed schedule.
A water budget was prepared and submitted with the technical memorandum for the Vertical	6. (RTC 8) (previous RTC 20d), TIMET should recognize that their answer in the subject	RTC 8. (RTC 20d) <u>TIMET's response on December 7, 2007:</u> "The required degree of accuracy and end use of a	Comment 8. (RTC 20d) <u>NDEP response.</u> RTC 20d, please consider the development of a site-wide, analytical	<u>TIMET Response #20d.</u> TIMET will consider other sources including but not limited to:	<u>NDEP #20d.</u> Page 2-9, 5 <sup>th</sup> bullet, TIMET states "The flux of groundwater through the alluvial aquifer appears to be far more



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Response to NDEP Comments  
May 23, 2008

May 23, 2008 (TIMET RTC)	Feb 10, 2008 (NDEP Comments)	December 7, 2007 (TIMET RTC)	September 24, 2007 (NDEP Comments)	August 6, 2007 (TIMET RTC)	June 6, 2007 (NDEP Comments)
Delineation SAP.	document digresses significantly from their response on August 6, 2007 letter to the NDEP. The original question and TIMET's response is copied below for ease of reference.	water budget must be carefully considered by all parties if TIMET is to develop one." The following quote comes from TIMET's CSM dated April 25, 2007. "As such, this document was written to achieve the following objectives: (1) integrate technical information from various sources, (2) identify data needs and serve as a guide for future data collection activities, and (3) <i>evaluate (qualitatively) the risk to human health and the environment posed by a contaminated site</i> (Italic emphasis added)."	water budget. NDEP expects that the schedule for submittal of this item will be identified in the response to this letter.	<ul style="list-style-type: none"> <li>Storm water infiltration through preferential pathways</li> <li>Pipeline breaks and leaks from adjacent properties</li> </ul>	than can be sustained by natural recharge, and is thought to be related to upslope irrigation infiltration." Does TIMET have information to document inflow from upgradient, off-site sources? What about potential on-site sources?
Table 3-1. Table 3-2 and Figure 3-3 of the CSM were modified and submitted to address the baghouse dusts and associated PCBs in waste streams and various source areas. The available data do not exceed TSCA threshold. TIMET has agreed data associated with this waste stream will be included in relevant area-specific CSMs.	7. (RTC 11) (previous RTC 30), please note that all available data should be included in the current CSM and used to support source analysis.	RTC 11 (former RTC 30) Response to Comment: TIMET will evaluate and consider this data in developing future SAPs in areas that may have been impacted by these baghouse dusts.	Comment 11. RTC 30. please be sure to present the PCB congener data for the baghouse dust as part of the technical memorandum for waste stream analyses.	<u>TIMET Response #30:</u> Future description of this process and associated waste streams will include a discussion of the discovery of decachlorobiphenyl in the baghouse dust wastes generated by the magnesium recovery operations. The presence of decachlorobiphenyl, a polychlorinated biphenyl (PCB), in the baghouse dust will be added in Table 3-1. Table 3-2 and Figure 3-3 will also be modified to address the baghouse dusts and associated PCBs in various source areas. Future description of this process and associated waste streams will include a discussion of the discovery of decachlorobiphenyl in the baghouse dust wastes generated by the magnesium recovery operations.	<u>NDEP #30.</u> Section 3.1.2.4, page 3-5, this Section, or a new Section, should discuss the discovery of decachlorobiphenyl in the dust recovered from the baghouse related to the magnesium recovery operations. The creation of this polychlorinated biphenyl (PCB) at levels exceeding TSCA should also be discussed.
CSM related information regarding sources, potential contaminants, release and transport mechanisms, and receptor locations will be used to identify appropriate sampling depths for site investigations.	8. (RTC 12) (previous RTC 33), please note that a key objective of the CSM is to identify data gaps, which include depths of proposed sample locations. CSM-related information regarding sources, release and transport mechanisms, and receptor locations should be employed in identifying appropriate sample depths.	RTC 12. (former RTC 33) Response to Comment: As noted in TIMET's original response to NDEP comment 33, the intent of this grouping PSAs in this source area was not to limit the depth of investigation. Future SAPs will address sampling and analysis as needed in these PSAs to characterize potential contamination. Sampling suites and depths for analysis will be determined at that time.	Comment 12. RTC 33, TIMET notes that there is no depth associated with the near-surface source areas. This is confusing in that near-surface source areas are contained within other source areas. It is not clear to the NDEP how this will be addressed in future SAPs.	<u>TIMET Response #33:</u> This source area name was intended to refer to areas with potential or known storage of wastes or contaminants at the surface (e.g., drum storage). The initial investigation will be in shallow soils to determine if a release has occurred. The intent was not to limit the depth of investigation or potential contamination.	<u>NDEP #33.</u> Section 3.4, page 3-9, please explain what the "near-surface soil source areas" includes. Specifically, what depths do this address?
TIMET understands that broad suite analyses are a necessary component of site characterization as specified in USEPA risk assessment guidance.	9. (RTC 13) (previous RTC 34a), please note that with few exceptions (which must be appropriately justified and approved by the NDEP), broad suites will be a necessary	RTC 13. (former RTC 34a) Response to Comment: Comment noted. NDEP disputes TIMET's use of "principle chemicals". The list of principle chemicals was based on process knowledge and waste stream analytical	Comment 13. RTC 34a, please note that the NDEP does not concur with TIMET's response. The basis for using "indicator chemicals" has not been established. This is primarily due to the lack of broad suite analyses at the	<u>TIMET Response #34a:</u> The purpose of the CSM is to identify processes, process waste streams and constituents of these waste streams, and areas where these process wastes were disposed. The identification of principal chemicals was not intended to limit	<u>NDEP #34a.</u> It is not clear to the NDEP how TIMET can develop a list of "principal chemicals" for potential source areas (PSAs) when very limited data is available for many of the PSAs. In addition, generally, broad suite analyses

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	component of site characterization. This is specified in USEPA risk assessment guidance.	data. TIMET did not intend that the “principle chemicals” be the only analytical conducted. Hypothetically - the main component of a waste stream “a” is magnesium chloride, and it is disposed in source area “b”. During an investigation the principle chemicals that you would expect to find are magnesium and chloride. If these chemicals are not found, then source area “b”, may not have been impacted by waste stream “a”. As stated previously, the identification of “principle” chemicals was not intended to limit analysis, or make a statement about risk.	TIMET Site. It is suggested that TIMET consider a focused effort to conduct broad suite analyses across the Site in source areas. Once this effort is completed there may be a basis for using indicator chemicals.	analytical to the “principle chemical” list or indicate “only chemicals”. The proposed analytical in the Table 3-2 is the suite of analyses proposed. The goal was to identify the key SRC that can be used as indicator chemicals in the area of interest.	have not been conducted at the Plant Site.
<p>NDEP has requested the compilation of historic data for waste streams. The historic data for waste streams was compiled in the Phase II Environmental Conditions Investigation. The historic data is very limited; particularly when compared to the current analytical program used in the field where full metals, radionuclides, anions, and general chemistry analyses are conducted. Older data do not include the full suite of analyses, quality assurance and quality control data, and provides general waste analysis for the purpose of waste characterization only. Further compilation or re-assessment of previously compiled historic waste stream analyses will not provide new information or move the project forward.</p> <p>Conducting broad suite analysis of current waste streams has little benefit. The typical field investigation analytical program includes anions, metals, general chemistry, and radionuclides on nearly all samples. For analyses such as semi-volatile and volatile organic compounds detection limits will likely be elevated due to the concentrated waste stream matrix.</p>	<p>10 (RTC 15b) the NDEP has the following comments:</p> <p>a. TIMET has not responded to the NDEP’s comment regarding waste stream analysis. In addition, it is not apparent that the response is consistent with discussions that have been on going. TIMET instead chose to defer the issue of waste stream analysis versus broad suite analyses to “future SAPs”. This is not helpful for project planning. It is expected that this issue will be brought to resolution during a meeting to be <b>scheduled by February 29, 2008</b>.</p> <p>b. TIMET must follow site characterization requirements for health risk assessment (HRA). The sooner a data usability evaluation is conducted using the existing information, the sooner the HRA data gaps can be identified. NDEP cannot accept a HRA or HRA work plan that is not based on adequate data.</p>	<p>RTC 15b. (former RTC 35a) Response to Comment: TIMET has reconsidered the need for this memo based on NDEP comments requiring broad suite analyses. TIMET has identified sources and components of waste streams using process knowledge and available analytical data summarized in the Phase II ECI. Further characterization of waste streams or research regarding historic waste streams may not be useful for the purposes of site characterization and may be costly. The use of this data for site characterization may be questionable due to differences in analytical methodologies, detection limits, and data validation. The need for broad suite analyses or additional waste stream analysis will be evaluated and determined when preparing all future SAPs.</p>	<p>Comment 15b. (RTC 35a) TIMET indicates that a technical memorandum will be prepared which summarizes the available analytical data and proposes a process to address data gaps. RTC 2 does not identify a schedule to complete this item. Please identify the proposed schedule for completing this item. This item can be discussed on the next regularly scheduled status call.</p>	<p><u>TIMET Response #35a</u>: Existing and historical waste stream analytical data will be compiled and summarized to address waste stream characterization. The waste stream analytical data will be compiled and summarized in a technical memorandum. Analytical data gaps will be identified and a plan for resolving the data gaps will be proposed.</p> <p>Waste stream data gap resolution will be addressed as necessary to determine the nature and extent of SRCs. If broad suite analyses are conducted on potential impacted media – refined waste analysis data are not needed. If more limited suite analysis are proposed additional waste stream analysis may be needed and will be conducted on a case by case basis.</p>	<p><u>NDEP #35a</u>. It would be helpful to have current, validated data for each of these waste streams. For those waste streams that no longer exist, historic data should be presented and caveated. This data should be compared to applicable metrics and the presented in tabular form.</p>

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Interferences from concentrated waste stream matrices are also likely to occur. TIMET will be including broad suite analyses in our SAPs to provide adequate site characterization and meet site characterization requirements for health based risk assessment.					
Analytical data is unavailable for complete waste stream characterization for waste materials disposed in the J-2 Landfill. TIMET acknowledges that broad suite analyses will be included in J-2 Landfill investigations to address this data gap.	11 (RTC 15c) similar to RTC 15b, (RTC 35a) TIMET has not responded to the NDEP's comment. Instead of providing a cross-reference or presenting the data that was requested TIMET has chosen to defer this issue to "future SAPs". This is not helpful for project planning. It is expected that this issue will be brought to resolution during a meeting to be <b>scheduled by February 29, 2008</b> .	RTC 15c. (former RTC 35a) Response to Comment: TIMET did not provide analytical data in the CSM for these waste streams. These non-hazardous waste streams are permitted to be disposed in the J-2 landfill under the existing permit. Analytical data is likely not available for some of these waste streams. Analytical data that has been conducted on other streams was likely for waste characterization and disposal or treatment purposes, and not for site characterization purposes. Available analytical data and the usefulness of that data for these waste streams will be evaluated when preparing future SAPs.	Comment 15c. (RTC 35a) Figure 3-3 of the CSM shows "chlorinator bed dump", "chlorinator dust", "electrolytic salts", "runouts", "anodes" and a variety of other materials being sent to the J-2 landfill. Please provide a cross-reference to the analytical data for these waste streams.	See TIMET RTC 35a above.	See NDEP Comment 35a above.
As discussed in the March 28, 2007 meeting with NDEP, TIMET agreed to review the scope of the next sampling and analysis plan with the NDEP prior to submittal.	12 (RTC 15d) the NDEP has the following comments: a. Instead of responding to the NDEP's request for a decision tree TIMET has chosen to defer this issue to "future SAPs". This is not helpful for project planning. It is expected that this issue will be brought to resolution during a meeting to be <b>scheduled by February 29, 2008</b> . b. If the application of a decision tree, data usability evaluation, and data gap analysis is not going to be incorporated into the comprehensive CSM for the site, then a candidate source area should be identified in the near future and these steps should be performed for that area in order to document to NDEP that the process will be conducted in accordance with risk-based methodology. c.	RTC 15a (former RTC 35a): Comment noted. TIMET will consider incorporation of a decision tree addressing waste characterization data usability and the need for broad suite analysis into future SAPs.	Comment 15a. (RTC 35a) This issue should be incorporated into a decision tree for site characterization issues. Example provided below for a theoretical area of the Site. Please note that this example would only be one part of a larger decision tree, other issues besides wastes would need to be considered. i. What are the current and historical waste streams which may have affected sub-area X? ii. Are defensible, validated analytical available for each waste stream? 1. If yes, proceed to characterization based on data. 2. If no, this is additional justification for a broader suite of analyses.	See TIMET RTC 35a above.	See NDEP Comment 35a above.



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TIMET agrees that a chemical can originate from an off-site anthropogenic source and be present on-site at concentrations greater than background. As noted, TIMET continues its evaluation of upgradient soil and groundwater concentrations.	13 (RTC 16b) (previous RTC 36a), TIMET should be clear as to how “trespass chemicals” and “background concentrations” are being defined in their response. For example, a chemical can originate from an off-site anthropogenic source and be present on-site at concentrations greater than background.	RTC 16b. (former RTC 36a): The source of these detections in groundwater is currently unknown. TIMET’s original suggestion that these detections appear to be trespass contaminants may have been too preliminary. TIMET is in the process of comparing shallow soil results to BRC/TIMET background sampling results to determine if concentrations of these analytes in soils along Lake Mead are comparable to background. The results of the deeper background study being conducted by BRC may be used to evaluate deeper soil sample results. If these results are found to be comparable to background, then TIMET’s suggestion that these are trespass contaminants may be correct.	Comment 16b. (RTC 36a) TIMET states that “detections of chromium, arsenic, sulfate, etc. in groundwater at monitoring locations along Lake Mead appear to be coming onsite as trespass contaminants.” It is unclear to the NDEP what the source of contaminants could be. Please explain and provide documentation for this statement.	<u>TIMET Response #36a:</u> Since surface soils at TRECO were closed with NFA to 10 ft bgs, the only remaining pathway would be for secondary subsurface soil-to-groundwater that then reaches a receptor for exposure. Since the surface soils to 10 feet were closed and no known PSAs were at TRECO, and TRECO is upgradient hydraulically from the TIMET site, downgradient groundwater will be addressed as part of the groundwater assessment. Future development of the Lake Mead Crossing complex and associated parking/stormwater control system makes it unlikely that infiltration will proceed downward towards the water table, if indeed there are any subsurface contaminants. Closure of the UST-16 area and its piping are documented with NDEP; BRC’s Risk Assessment of the TRECO property has been completed and no evidence of a need to investigate subsurface was indicated. If contamination is absent in the surface, there is no need to investigate the subsurface. The detections of chromium, arsenic, sulfate, etc. in groundwater at monitoring locations along Lake Mead appear to be coming onsite as trespass contaminants.	<u>NDEP #36a.</u> It appears that the sub-surface area of TRECO is not included in this Table or the CSM. Please explain.
No response is required.	14 (RTC 18) (previous RTC 42), in the future please do not include hypotheses that have no basis in data. No response is required.	RTC 18 (former RTC 42): The boring log does not indicate the presence of gypsum at this boring location. TIMET agrees the statement was hypothetical and other theories are plausible. As stated, additional assessment of the soil and groundwater conditions at these upgradient locations is warranted and planned.	Comment 18. (RTC 42) TIMET’s response is not responsive to the original comment. Please re-review the NDEP’s comment and respond. Specifically, please note if the boring logs indicate the presence of gypsum or not.	<u>TIMET Response #42:</u> Comment noted.	<u>NDEP #42.</u> Section 4.3.1.3, pages 4-10 and 4-11, the NDEP has the following comments: <u>NDEP #42a.</u> TIMET discusses elevated sulfate concentrations in two samples from boring TMSB-104. TIMET indicates that “these depths may be naturally high in gypsum, which is known to occur in local sediments.” It is unclear to the NDEP why there is ambiguity surrounding this issue. TIMET installed these borings using sonic drilling and the presence of gypsum should have been noted on the boring logs. If this is not the case it is unclear why this speculation is present in the report. Another hypothesis would be that sulfate has already migrated through the soil column to groundwater and the deeper sulfate impacts are what remain in the vadose zone.



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TIMET's use of the phrase "as appropriate" in the statement was a reference to data usability. Use of undefined qualifiers will be avoided in future RTCs.	15 (RTC 21) (previous RTC 50c), TIMET's response does not address NDEP's request to define "as appropriate".	RTC 21. (Former RTC 50c): The phrase "as appropriate" was added to the statement to due to TIMET's recent conversations with NDEP regarding data usability.	Comment 21. (RTC 50c) please explain what it means to say that this data will be used "as appropriate".	<u>TIMET Response #50c</u> : Discussion of this practice was included in Section 3.0, Table 3.2. Assessment of volatiles compounds has been conducted on roadways in previous investigations. This data will be assessed and utilized (as appropriate) in scope additional investigations to address any further data needs.	<u>NDEP #50c</u> . In addition, please discuss the historic use of VOCs as dust suppressants on roadways.
As discussed with NDEP on March 27, 2008, TIMET acknowledges that broad suite sampling will be conducted where waste stream characterization is limited.	16 (RTC 24) (previous RTC 55a), NDEP notes that the format and content of this RTC is helpful. Specifically, directing the NDEP to the appropriate location on Table 6-1, however, TIMET's response does not address NDEP's previous comment 55a, which is specific to the potential for PAHs to have been released on-Site.	RTC 24. (Former RTC 55a): See Problem Statement #22 on the revised Table 6-1a.	Comment 24. (RTC 55a) please note that the Site characterization cannot be delayed pending the publication of USEPA data. Please include this issue on the revised data gap table.	<u>TIMET Response #55a</u> : As NDEP is aware, EPA collected samples of TIMET waste streams in 2006 on two occasions. TIMET is not aware of publication of EPA's findings from their investigation. Once published, this data will be assessed and appropriate updates to CSM related tables will be made.	<u>NDEP #55</u> . Section 4.3.5, pages 4-37 and 4-38, the NDEP has the following comments: <u>NDEP #55a</u> . Please discuss if PAHs are formed in the magnesium recovery electrolytic cells or any other process on Site.
As discussed with NDEP and its contractors on March 27, 2008, TIMET intends to continue operating the facility with the policies and procedures required which restrict access. The hypothetically potentially complete pathways involving a trespasser (unlikely, given the security measures required at a facility producing TiCl <sub>4</sub> ) or an open soil scenario (unlikely, given the administrative controls assigning workers to indoor duties) are not complete at this time. If such a time in the future arises where TIMET would not have security in place (and thus trespassers could be present) or where TIMET would allow workers to access open soils, TIMET understands that a different CSM, SAP, and/or risk assessment would be required.	17 (RTC 26) (Previous RTC 63F) The NDEP is uncertain about the distinction that TIMET is attempting to make by adding a pathway classification of "important." The current RTC digresses from the issue. TIMET should use the accepted classification scheme of potentially complete, complete, or incomplete. In addition, TIMET's response does not address NDEP's comment. Adequate justification should be provided for the pathways that are indicated on the present CSM to be incomplete, insignificant, or "not important". USEPA risk assessment guidance and exposure assessment guidance must be followed when identifying current and future complete or potentially complete exposure pathways.	RTC 26. (former RTC 63F): TIMET agrees in spirit that all potentially complete exposure pathways will be considered. However, TIMET also expects that the CSM's site-specific information on historical operations, waste streams, and data collected to date may be used to suggest what pathways are anticipated to be important. Without using the operations, waste stream, and historic data to focus the pathway analysis, the CSM is nothing but a generic, hypothetical "everything is complete" model rather than the focused, site-specific document intended. TIMET did not unilaterally decide which are most important: the data and process history are presented to inform this judgment. Regardless of this difference in opinion, TIMET agrees it is not excluding a pathway from future assessment, as NDEP can assert (at any stage of the process) which specific pathways must be evaluated.	Comment 26. RTC 63f, the NDEP disagrees with TIMET's response. NDEP's original comment stated "General comment, in addition to complete exposure pathways, potentially complete pathways should be included at this stage of the CSM." TIMET's response proposes to defer this issue and decides to focus on the "most important exposure pathways". It is not clear how TIMET can unilaterally decide what the most important exposure pathways are in the first version of the CSM prior to the completion of site characterization. NDEP notes that TIMET should consider all exposure pathways at this time and make the evaluation more specific as additional data is collected. Until sufficient information is available and TIMET has provided adequate documentation to the NDEP, all potentially complete exposure pathways must be considered.	<u>TIMET Response #63f</u> . The purpose of the Conceptual Site Model was to focus the discussion on the primary sources and principal contaminants, as well as the most important exposure pathways. Potentially (but unlikely to be) complete pathways would complicate the planning and assessment. If a specific exposure pathway that changes the sampling and analysis plan (SAP) planning and future sampling efforts, then we welcome the specific NDEP comment.	<u>NDEP #63f</u> . General comment, in addition to complete exposure pathways, potentially complete pathways should be included at this stage of the CSM.
At this time, data usability for risk assessment on soils is premature, as investigations are ongoing, and areas of open soil are not presently accessed by workers. The dynamic nature of dust resuspension and	18 (RTC 27) (former RTC 63g) NDEP does not concur with the response and notes that all data should not be assumed to be usable until data usability is completed per the USEPA	RTC 27. (former RTC 63g): Data usability will be done in the RI report (for nature and extent usability, i.e. compliance with SSL levels using DAF1 and a site-specific DAF) and in the future HRA process (i.e., compliance	Comment 27. (RTC 63g) TIMET notes that data usability will be conducted in the risk assessment, however, as noted in RTC 63f TIMET appears to be conducting analyses which are a part of risk assessment. Hence, it is	<u>TIMET Response #63g</u> : Data usability will be conducted in the risk assessment according to standard guidance. Once site data are available, the comprehensive exposure assessment will be conducted as part of the risk assessment process.	<u>NDEP #63g</u> . General comment, the CSMs for each source area are correctly identified as preliminary CSMs. This is appropriate as (1) a data usability evaluation and documentation of adequate characterization for each exposure area

TABLE 1

Response to NDEP Comments  
May 23, 2008

May 23, 2008 (TIMET RTC)	Feb 10, 2008 (NDEP Comments)	December 7, 2007 (TIMET RTC)	September 24, 2007 (NDEP Comments)	August 6, 2007 (TIMET RTC)	June 6, 2007 (NDEP Comments)
deposition requires that the data usability be conducted with current shallow soil data (to be collected in the future), if an open soil scenario does not violate the administrative controls in place. As the vertical delineation effort is still ongoing in subsurface soils, such data usability analysis is also premature.  However, TIMET agrees to address other components of data usability in future reports.	guidance. In addition, TIMET's response does not show an understanding that there are key components to a data usability evaluation other than data validation and consideration of risk-based concentrations (e.g., defining "extent" and adequacy of reporting limits). Such key components include adequate characterization of source-related chemicals, analytical methods relative to COPCs, spatial coverage relative to exposure areas, and receptor exposure points.	with then-current risk-based media levels and promulgated values of interest, such as MCLs). Other than the DVSR volumes already submitted to NDEP, no further data usability will be provided for the CSM itself, because data are evaluated against use-specific criteria. All data are assumed to be usable for the purpose intended, with any data usability constraints to be discussed in uncertainty analyses in the appropriate reports.	appropriate to complete some level of data usability assessment as part of the CSM.		has not been completed (accordingly data gaps may exist) and (2) a comprehensive exposure assessment has not been completed, which applies standard guidance to identify complete and potentially complete as well as insignificant pathways for both current and hypothetical future receptors.
As discussed with NDEP and its contractors on March 27, 2008, TIMET anticipates that current workers will continue to be assigned duties inside existing buildings. In the case where new buildings are constructed in the future, TIMET understands that any HRA must account for the data and use patterns intended. TIMET's goals are continued site operations: NDEP stated that TIMET need only to evaluate the current scenario. Any NDEP approval will contain an appropriate level of limitations based upon the administrative controls upon which TIMET is relying.	19 (RTC 31, former RTC 72c) TIMET's response does not address NDEP's request to split out the current and future scenario in the CSM. The future scenario exposure pathways and receptors will likely be different, relative to current scenarios, for most of the exposure areas. For example, under a future land use scenario, it is assumed that all surface soil is exposed and a building or receptor could be located anywhere within the exposure area. If area-specific rationale (e.g. analytical data) can be provided for specific HRA areas to eliminate a pathway for that area, that should be done as a component of the area-specific evaluation. Without such rationale, future pathways must initially be considered to be complete.	RTC 31 (former RTC 72c): As discussed between NDEP and TIMET in several meetings specific to the NDEP's comments on the CSM, physical change to the figures is not necessary at this time due to the evolving nature of the CSM. It is understood that HRA figures will ultimately supersede these CSM figures, which by definition are a guide to the HRA process but not an exhaustive prescription for the HRA.	Comment 31. (RTC 72c) as previously requested, the current and future exposure scenarios should be split out on the figures.	<u>TIMET Response #72c:</u> Please see footnote 7 on each figure. Assessment will be conducted in the future risk assessment when data are available.	<u>NDEP #72c.</u> Some receptors and some pathways are different for the current scenario and the future scenario. Accordingly, the two scenarios should be split out on the figures and all potential pathways for hypothetical future receptors should be included as "C". For example, a hypothetical future commercial/industrial worker could be exposed to indoor air at any location on the site where a building could be built in the future.
TIMET agrees "the exposure assessment will be conducted only as a component of the HRA" and as per the March 27, 2008, call with NDEP and its contractors, the CSM will include a current worker (in light of administrative controls) with a soil/PEF risk screen as suggested by NDEP contractor, Ms. Copeland.	20 (RTC 32, former RTC 72d) a pathway is considered complete until site-specific data or other specific information can provide adequate documentation to conclude otherwise. Please note that this comment also applies to RTC 33 and 41.	RTC 32 (former RTC 72d): As discussed between NDEP and TIMET in several meetings specific to the NDEP's comments on the CSM, the physical change to the figures is not necessary at this time, but the footnotes reflect all future pathways will be considered. TIMET agrees that the HRA exposure assessment is the appropriate place for	Comment 32. (RTC 72d) as previously requested, please split out on the CSM figures the potential current and future receptors. Insignificant pathways should not be shown for future receptors in this CSM document. Insignificant pathways shown for current receptors must be supported by site-specific rationale detailed in the	<u>TIMET Response #72d:</u> The exposure assessment will be completed once data are available. However, not all "I" pathways are complete: specifically, as an example, the pathways from indoor air to trespassers or workers (where no buildings exist) are incomplete because the media (indoor air) cannot possibly reach the receptor because the receptors cannot be in a building (i.e. see	<u>NDEP #72d.</u> Many of the pathways identified as "I" (incomplete) are more correctly identified as insignificant. In order to classify a pathway as insignificant, the USEPA exposure assessment guidance (USEPA, 1992a) should be used and adequate rationale should be provided. For some pathways for which data are still inadequate, the



TABLE 1

Response to NDEP Comments  
May 23, 2008

May 23, 2008 (TIMET RTC)	Feb 10, 2008 (NDEP Comments)	December 7, 2007 (TIMET RTC)	September 24, 2007 (NDEP Comments)	August 6, 2007 (TIMET RTC)	June 6, 2007 (NDEP Comments)
In the future, a pavement map showing the limits of open soil will be useful for the exposure assessment when the HRA is initiated.		detailed text describing the nature of each exposure pathway.	text sections of the document. USEPA (1989, 1992, 1996, 2002) guidance criteria and site-specific data should be used to identify insignificant pathways in the HRA. For example, “infrequent exposure time” (e.g., footnote 8) is not alone an adequate basis for defining a pathway as insignificant. Also, please note that the NDEP expects that the exposure assessment will be conducted only as a component of the HRA.	Figure 5-2 and footnotes 5 and 7) as buildings do not exist. We agree that windblown dust may travel some distance from the site and could then be insignificant (due to dilution) rather than incomplete. Once additional data are available, we will assess whether contaminants are reaching the fenceline.	pathway may need to be identified as a potentially complete pathway for purposes of the preliminary CSM. An example of this is windblown dust and deposition onto surface soil at offsite residential locations. Following completion of characterization and an evaluation of data usability and data adequacy, USEPA criteria for an insignificant pathway may be met.
Presently, the historic ditch map (Figure 3-6, Surface Water Conveyances) will be used in the development of SAP in order to collect the necessary data to confirm SRC in “sink” areas.	21 (RTC 33) (former RTC 72e) the NDEP notes that the CSM is the appropriate place to describe the physical features of the Site. For example, describing where surface run on or run off might occur and where this surface water might come to be located.	RTC 33 (former RTC 72e): As NDEP stated in the previous comment (please see #32 above), TIMET agrees that the HRA exposure assessment is the appropriate place for detailed text describing the nature of each exposure pathway. Once the HRA data set is collected, additional information will inform the hypothetical release mechanism discussion for assessment in the HRA.	Comment 32. (RTC 72e) the point that NDEP makes in their comment is that contaminants can be transported from the location of the surface water to other exposure points via secondary release mechanisms (e.g., transport from the surface water via surface runoff) and/or tertiary sources (e.g., environmental “sink” areas to which surface water could be transported). In general, the text should provide detailed supporting information for the figures.	<u>TIMET Response #72e:</u> A trespasser could walk or fall into a trench or pond (surface water) that has received contamination from a PSA. Thus, no secondary release or tertiary source is involved, as the person can be exposed directly to the secondary source (surface water) via the exposure routes indicated.	<u>NDEP #72e.</u> More detail (i.e., rationale) should be provided for areas that have surface water identified as a secondary source with no secondary release mechanism and/or tertiary source listed.
Both leaching and infiltration will be assessed as part of the HRA and characterization of the site to ensure protection of groundwater.	22 (RTC 34) (former RTC 72f) please note that leaching and infiltration do not have the same meaning in Soil Screening Guidance (EPA, 1996).	RTC 34 (former RTC 72f): As TIMET originally responded, “No secondary release mechanism or tertiary source is appropriate for this scenario. Footnote 2 explains this assumption conceptually.” Specifically, the subsurface soil direct contact (ingestion, dermal contact with subsurface soil in an excavation) has no secondary release mechanism or tertiary source. These direct contact pathways are already expressed. “Leaching of contaminants in subsurface soil” is represented by “Infiltration and Percolation” from source areas (a primary release mechanism) and thus the requested addition would be redundant. An arrow was added (to all five figures) from “Subsurface Soil” to connect to “Wind Suspension” to show that the construction worker inhalation pathway (e.g. inhalation of dust) is represented both via the surface soil dust and subsurface soil dust. All relevant pathways will be evaluated in the HRA once a data set is completed.	Comment 32. (RTC 72f) we agree that the figures omit the secondary release mechanism and tertiary sources for future construction worker exposure to subsurface soil. Please add these components to the CSM figures. Please add (to the figures and text) the secondary release mechanisms for subsurface soil (e.g., emission of dust to outdoor air during construction activities, leaching of contaminants in subsurface soil) and the tertiary source(s) (e.g., outdoor air). Please note the NDEP expects that all pathways that are relevant for the construction worker (as defined by USEPA, 2002) will be identified as complete in the CSM text, figures, and associated footnotes.	<u>TIMET Response #72f:</u> The figures omit a secondary release mechanism and tertiary source to which subsurface soil relates only for the future on-site construction worker, who would have potentially complete direct exposure pathways under hypothetical repair or expansion construction conditions. No secondary release mechanism or tertiary source is appropriate for this scenario. Footnote 2 explains this assumption conceptually.	<u>NDEP #72f.</u> More detail (i.e., rationale) should be provided for areas that have subsurface soil identified as a secondary source with no secondary release mechanism and/or tertiary source listed.

TABLE 1

Response to NDEP Comments  
May 23, 2008

May 23, 2008 (TIMET RTC)	Feb 10, 2008 (NDEP Comments)	December 7, 2007 (TIMET RTC)	September 24, 2007 (NDEP Comments)	August 6, 2007 (TIMET RTC)	June 6, 2007 (NDEP Comments)
As discussed in detail on March 27, 2008, TIMET's security policies in the post-911 era require vigilant patrols to ensure that the 8-foot razor-wire topped chain link fences remain intact. The perimeter is inspected daily. Access to surface water by the current workforce or by trespassers is restricted (due to the administrative and engineering controls in place). As TIMET indicated, we recognize that future use for a different purpose (i.e., residential) could require additional/different evaluation.	23 (RTC 39) (former RTC 72k) please note that if there is surface water at the site, then the exposure pathway is potentially complete, at least for a future receptor.	RTC 39 (former RTC 72k): TIMET disagrees that any on-site TIMET workers will access surface water at the site. Job duties are limited to active plant operations areas and no worker will routinely contact surface water. No "default future scenario" for exposure to surface water exists: any surface water pathway assumptions must be site-specific. The HRA will be an appropriate place to further determine the actual (rather than hypothetical) contaminant sinks.	Comment 39. (RTC 72k) the NDEP reiterates that potential migration and exposure pathways associated with surface water should be included in the preliminary CSM. In regard to migration potential, contaminants can be transported from the location of the surface water to other exposure points via secondary release mechanisms (e.g., transport from the surface water via surface runoff) and/or tertiary sources (e.g., environmental "sink" areas to which surface water could be transported). Pathways for both current and default future scenarios (onsite and onsite) should be included. For example, an onsite outdoor worker could be exposed to surface water at the site. Please revise the figures accordingly.	<u>TIMET Response #72k</u> : The current/future trespasser scenario will incorporate appropriate exposure assumptions to be protective of current/future offsite residents subject to storm water runoff: there is no default future residential scenario appropriate for surface water (USEPA 2002). Thus, the site-specific "trespasser" evaluation will be protective of migration and exposure pathways, as it will evaluate (undiluted) surface water nearest the point of release rather than further downstream (more diluted) surface water exposure of an off-site residential trespasser. This will be explained in the risk assessment following further data collection.	<u>NDEP #72k</u> . Footnote 1: Potential migration and exposure pathways associated with surface water should be included in the preliminary CSM. Pathways for both current and default future scenarios should be included.
In future documents, the term SRC will replace the term COPC as per NDEP request.	24 (RTC 40) (former RTC 73) in future submittals please do not use the term "COPC" in place of "SRC". The term "COPC" should only be used in a manner that is consistent with its regulatory meaning.	RTC 40 (former RTC 73): While TIMET appreciates that risk assessors have a specific definition of the term "COPC," the term COPC is synonymous with the term SRC in this CSM. TIMET's use of the term is appropriate. To change the term COPC to some other arbitrary acronym to avoid (perceived) potential confusion in the future HRA submittal is unnecessary and will impact more than just the CSM submittal. As TIMET has discussed with the NDEP, revision to the CSM is not an efficient utilization of limited resources at this time.	Comment 40(RTC 73) TIMET response is not responsive to the NDEP's original comment. Please re-review the original comment and respond accordingly.	<u>TIMET Response #73</u> : It is anticipated that the potential COPCs identified will be selected as per EPA guidance and eventually a subset of the SRC list will become COCs rather than COPCs. These SRCs discussed are our preliminary COPCs.	<u>NDEP #73</u> . Section 5.2, The term COPCs is used throughout this section (and others in the document). It is more appropriate to use an alternate term for purposes of the subject document, as the term Chemicals of Potential Concern (COPCs) has a specific definition within the risk assessment framework and implies that a specific selection process has been applied (USEPA, 1989
As suggested by NDEP contractor Ms. Copeland in the March 27, 2008 conference call, the first step in the analysis of off-site downwind residential areas will be a soil/PEF-based risk screening.	25 (RTC 41) (former RTC 79) NDEP disagrees with TIMET's response. Please note that the onus is not on NDEP to prove the existence of contaminants downwind relating to Site operations. It is TIMET's responsibility to prove that the pathway is not valid. Also, it is highly inappropriate for TIMET to suggest that it is necessary for NDEP to demonstrate that a garden exists downwind. The NDEP reiterates, the future, off-	RTC 41 (RTC 79): As underscored by NDEP, "A pathway is complete if there is (1) a source or chemical release from a source, (2) an exposure point where contact can occur, and (3) an exposure route by which contact can occur (USEPA, 1989)." TIMET asserts that until (1) an off-site release in downwind areas is proven (with appropriate data), and (2) until a downwind (off-site) garden where contact can occur is identified, then no current exposure pathway exists. If in the future a resident chooses to install a garden,	Comment 41. (former RTC 79) TIMET indicates that the future residential homegrown produce pathway will not be discussed in future submittals because "downwind residential areas are largely paved or covered with stone in this urban portion of the Mojave Desert." TIMET has no authority to deed restrict off-Site properties to forbid gardening hence the above-statement by TIMET is invalid. The residential homegrown produce pathway shall be addressed in future submittals.	<u>TIMET Response #79</u> : No discussion of future residential homegrown produce pathways will appear in the future submittals since further reconnaissance of the downgradient residential areas on June 20-21, 2007, indicated that all downwind residential areas are paved or covered with stone in this urban portion of the Mojave Desert.	<u>NDEP #79</u> . Section 5.5.1.2, page 5-21, please delete the following sentences from the second paragraph, which do not add relevant information to the preliminary CSM and are not consistent with USEPA guidance (USEPA 1996, 2005) or other NDEP projects: "Exposures from ingestion of future hypothetical homegrown produce would be highly variable because of the long list of exposure assumptions and extrapolations necessary to predict risk. Further, inclusion of the homegrown produce consumption pathway often



TABLE 1

Response to NDEP Comments  
May 23, 2008

May 23, 2008 (TIMET RTC)	Feb 10, 2008 (NDEP Comments)	December 7, 2007 (TIMET RTC)	September 24, 2007 (NDEP Comments)	August 6, 2007 (TIMET RTC)	June 6, 2007 (NDEP Comments)
	site, homegrown produce pathway <u>must</u> be addressed in future submittals.	garden-quality topsoil will need to be brought onto the property to sustain vegetables and/or fruits. Once data are available, TIMET is prepared (in future HRA submittals) to evaluate a hypothetical future off-site homegrown produce pathway if the elements required in USEPA (1989) guidance are shown to be present.			results in unrealistically elevated risk estimates that have the potential to drive risk because of the pathway's uncertainty." Determination of whether the homegrown produce pathway is complete should be based on the potential for source (i.e., soil and/or air) contamination.
TIMET acknowledges that analyses of broad suites will be conducted if little information is known about a potential source area.	26 (RTC 46) (former RTC 82ff-4) TIMET's response is inadequate. Please note that if little is known about a potential source, all potentially relevant broad suites must be run at key locations (e.g., most likely release points) within the specific source area. Furthermore, it is NDEP's understanding that the referenced "conservatism" will include the analyses of broad suites, as applicable.	RTC 46 (former RTC 82ff-4): As NDEP and TIMET have discussed, some conservatism will be incorporated into the planning process to account for unknowns.	Comment 46. (RTC 82ff-4) please describe how specific SAPs will address unknowns associated with historic operations; unknown compositions of wastes, etc.	<u>TIMET Response #82ff-4:</u> Confirm that site-specific sampling and analysis plans (i.e. analytical program) will be scoped based upon type of wastes received and associated releases in the particular area as presented in the CSM.	<u>NDEP #82ff-4.</u> Soil data with broad suite analyses is largely lacking throughout the Site. This is especially true in the sub-surface. The basis for limited suite analyses is unclear.
Errata Figure 1 was erroneously referred to as Figure-4a.	27 (RTC 47) (former RTC 82ff-5) TIMET references a Figure 3-4a. This Figure was not provided. It appears that this may actually be errata Figure 1. Please advise.	RTC 47 (former RTC 82ff-5): TIMET has modified Table 3-2 and added Figure 3-4a to include TIMET Unit Buildings as PSAs at NDEP's behest. The modified Table 3-2 and Figure 3-4a are included as an attachment to this response to comments.	Comment 47. (RTC 82ff-5) NDEP disagrees with TIMET's assertion that Unit Buildings are not sources. Unit Buildings have had a variety of uses throughout time. Please discuss the following, if TIMET asserts that the Unit Buildings are not sources:	<u>TIMET Response #82ff-5:</u> Unit buildings are not listed as source areas. There are no collection sumps for process waste in the Unit Buildings. Wastewater from Unit Buildings was collected in shallow lined surface drains and subsurface conveyances that are included as PSA 10 in the CSM. Portions of these conveyances are located beneath the existing unit buildings. Where subsurface piping is present in another identified PSA, further evaluation will be managed within that PSA. For areas where subsurface piping is located outside of other identified PSAs, evaluation of soil to groundwater impacts will be considered and further assessed as necessary. Note 1 in Table 3-2 will be modified to ensure that subsurface piping outside of identified PSAs is not excluded as a PSA.	<u>NDEP #82ff-5.</u> Soil data beneath the existing Unit Buildings has not been collected. These buildings are a likely source area.
TIMET has included the Unit Buildings as potential sources as requested by NDEP. TIMET will address potential issues with "conservatism" in future SAP.	28 (RTC 47c) (former RTC 82ff-5) it is highly unlikely that TIMET has accurate documentation of spills and releases for the Site since operations were initiated. In addition, the records prior to the Site being occupied by TIMET are even more sparse.	RTC 47c (former RTC 82ff-5): TIMET has documented past spills and releases from various areas of the plant site. TIMET is unaware of indiscriminant dumping in and around the current operations that is referenced by NDEP.	Comment 47c. (RTC 82ff-5) RTC 82ff-5, NDEP disagrees with TIMET's assertion that Unit Buildings are not sources. Unit Buildings have had a variety of uses throughout time. Please discuss the following, if TIMET asserts that the Unit Buildings are not sources: a. Spills or indiscriminate dumping	See TIMET Response #82ff-5 above	See NDEP Comment # 82ff-5 above.

TABLE 1

Response to NDEP Comments  
May 23, 2008

May 23, 2008 (TIMET RTC)	Feb 10, 2008 (NDEP Comments)	December 7, 2007 (TIMET RTC)	September 24, 2007 (NDEP Comments)	August 6, 2007 (TIMET RTC)	June 6, 2007 (NDEP Comments)
	NDEP believes that TIMET's response to this comment is inappropriate. NDEP assumes that TIMET will address this issue through "conservatism" in future SAPs as noted in other responses. Please advise if TIMET envisions addressing this matter in a different manner.		associated with historic through current operations and how this may have affected the areas beneath and around the unit buildings.		
<p>Table 3-1 was updated and submitted in the December 10, 2007 RTC. No further modification of the table is proposed. No wastes are included for the chlorine caustic plant since that facility was not located on TIMET property. We have reviewed the other examples provided in comment a, and believe that the wastes identified in Section 3.1 of the text are included in Table 3-1a.</p> <p>The waste streams are tied to generating processes in the column titled "Description" and tied to source areas in the column titled "Disposition" in Table 3-1a. These source areas are further addressed and tied to the specific waste streams in Table 3-2a.</p> <p>Future SAPs will include a review of potential sources, waste streams, SRCs, prior site investigation data, and will include broad suite analyses as needed to address data gaps.</p>	<p>29 Table 3-1a, the NDEP has the following comments:</p> <p>a. The text and table are not tied together well. For example, not all of the specific operational features discussed in Section 3.1 of the text (chlorine caustic plant, magnesium plant, Units 7-13, Buildings J-3, C-9, and K-55) are tied to Table 3-1-a.</p> <p>b. The waste streams should be better tied to "source areas" so that data gaps can be more easily identified</p> <p>c. The "Known Site-Related Chemical" column should also include <i>potential</i> SRCs that might be related to the specific waste stream. For example, many of the metals that are listed in this column as "excluded" appear to be elevated in site samples compared with the background dataset.</p>	<p>Response to Comment: Table 3-1 has been updated to include additional waste streams and clarification of definitions. The updated Table 3-1 is included as an attachment to this response to comments.</p>	NA	NA	NA
<p>Table 3-2 was updated and submitted in the December 10, 2007 RTC. No further modification of the table is proposed.</p> <p>The intent of the text was not to duplicate Table 3-2a. The text briefly summarizes the table content and the details are provided in Table 3-2a.</p> <p>The PSAs are shown on figures 3-4 through 3-7, and are also shown in</p>	<p>30 Table 3-2a, the NDEP has the following comments:</p> <p>a. NDEP's review of this Table does not indicate concurrence for any future SAPs. SAP-specific comments will be generated as the SAPs are reviewed.</p> <p>b. The text and table (and figure) are not tied together well. For example, the PSAs and/or LOUs do not appear to be discussed individually in the text nor shown collectively on a figure and/or in</p>	<p>Response to Comment: Potential source areas including U.S. Vanadium, Lab buildings K-53 &amp; K-55, Unit buildings, WAPA and Southern Nevada Power Sites, and Unit buildings have been added to Table 3-2 at NDEP's behest. The updated Table 3-2 is included as an attachment to this response to comments.</p>	NA	NA	NA

TABLE 1

Response to NDEP Comments  
May 23, 2008

May 23, 2008 (TIMET RTC)	Feb 10, 2008 (NDEP Comments)	December 7, 2007 (TIMET RTC)	September 24, 2007 (NDEP Comments)	August 6, 2007 (TIMET RTC)	June 6, 2007 (NDEP Comments)
<p>conjunction with previous sample results on the soil figures associated with Section 4 of the CSM.</p> <p>The coke used by TIMET is calcined coke and does not contain PAHs. Therefore PAHs have not been identified as potential site-related chemicals for the coke in the northern storage area and the J2 Landfill.</p> <p>The coke is a component of chlorinator dust and CSD solids, which are included as a waste streams associated with the J-2 Landfill in Table 3-2a.</p> <p>The area identified as the S-17 Landfill was named from an EPA aerial survey conducted in the early 1980's. This area has never been used as a landfill. The only use reported for this area was the possible storage and burning of pallets. Therefore the required analytical includes Dioxins/Furans and PAHs.</p> <p>SAPs will include a review of potential sources, waste streams, SRCs, prior site investigation data, and will include broad suite analyses as needed to address data gaps.</p>	<p>conjunction with previous sample results.</p> <p>c. The known or potential source-related chemicals do not appear to be well thought out. For example, coke is identified as a source in the text and table for the northern storage area; however PAHs are not identified as potential source-related chemicals. Coke is listed as a major component of the J2 landfill in the text, but not listed as a "principal" source-related chemical in the table. Another example is that dioxins and furans are listed as the only chemicals to be analyzed for the S-17 landfill; it is not clear why other chemicals are not listed for the S-17 landfill or why dioxins and furans are not listed as being associated with other potential sources such as former drainage ditches, OPW, and/or chlorinator dust.</p> <p>d. If existing data are adequate for all potential S-17 landfill analytes, then those data should be brought forth to provide justification. The "Principal Chemicals" column should also include potential SRCs that might be related to the specific source.</p> <p>e. The data for the sample IDs listed in the "Sample ID Nos." column should be presented in conjunction with the other source information, and used to identify data gaps for each of the source areas.</p>				
<p>TIMET acknowledged during the March 27, 2008, call with NDEP and its contractors that a data-based HRA will be dependent on the pathways assessed. At this time, TIMET is not seeking a NFA for future unrestricted (open soil) scenarios. Current workers are</p>	<p>31 Figures 5-1 through 5-5, the NDEP has the following comments:</p> <p>a. Until site characterization is complete (or at least further along), it is too premature to eliminate common pathways for some or all of the source areas.</p>	NA	NA	NA	NA

TABLE 1

Response to NDEP Comments  
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required to perform duties inside (as supported by TIMET policies) and thus these administrative controls preclude open soil exposures. As discussed on the call, dust issues can be addressed with a quantitative soil/PEF-based screen, supported by the extent of pavement map (delineating the open soil areas). As per NDEP's request (see March 27, 2008 minutes), on-site data can be used to screen off-site exposures. For off-site exposures, a fenceline soil/PEF and soil vapor screen can be completed using on-site data as a first step in determining downwind residential risks. Given the choice to screen data in either the CSM or HRA, TIMET agrees that site data will be used to eliminate exposure pathways in the forthcoming HRA process as the data set will be more complete at that stage of the project.	<p>NDEP recommends that, particularly for the future unrestricted (open soil) scenario. Please note that NDEP will not issue a NFA without proper assessment of a future unrestricted (open soil) scenario.</p> <p>b. For the current scenario, NDEP is still concerned that pathways are being excluded prematurely and without the support of on-Site data. For example, the potential for inhalation of particulates and/or vapors (derived on-Site) by downwind receptors should be determined using on-Site data. Also, "infrequent exposure" cannot be used as the basis for eliminating a pathway without some supporting site data. NDEP will require that, for each default pathway, site characterization data be used as rationale prior to the elimination of an exposure pathway. This can be done at the CSM step or the HRA step of the process. Until such rationale is provided, potential pathways cannot be eliminated.</p>				